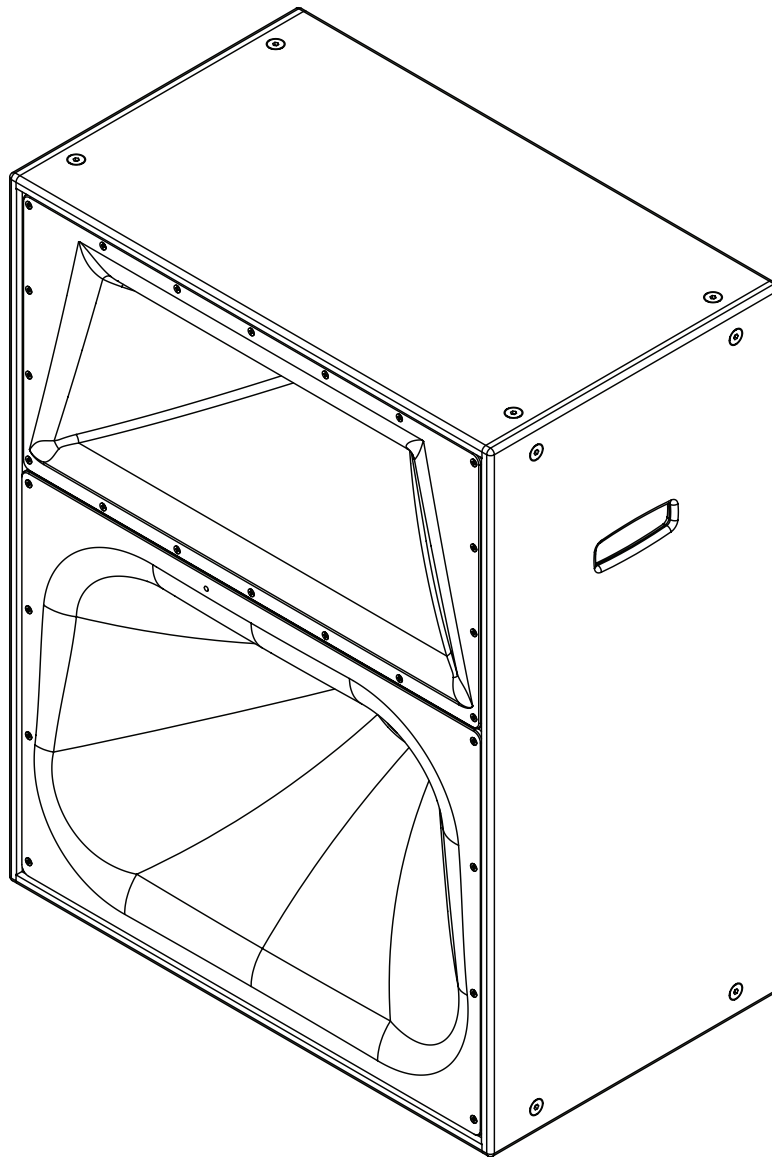


# MH-1075C-F

## Cinema Loudspeaker User Manual



Flyable 10" Mid, Large Format High Frequency Compression Driver Cinema Mid/High System



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TD-000370-00-A



## EXPLANATION OF SYMBOLS

The term “**WARNING!**” indicates instructions regarding personal safety. If the instructions are not followed the result may be bodily injury or death.

The term “**CAUTION!**” indicates instructions regarding possible damage to physical equipment. If these instructions are not followed, it may result in damage to the equipment that may not be covered under the warranty.

The term “**IMPORTANT!**” indicates instructions or information that are vital to the successful completion of the procedure.

The term “**NOTE**” is used to indicate additional useful information.



The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of un-insulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.



The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.



### IMPORTANT SAFETY INSTRUCTIONS



**WARNING!** Before placing, installing, rigging, or suspending any speaker product, inspect all hardware, suspension, cabinets, transducers, brackets and associated equipment for damage. Any missing, corroded, deformed, or non-load rated component could significantly reduce the strength of the installation or placement. Any such condition severely reduces the safety of the installation and should be immediately corrected. Use only hardware which is rated for the loading conditions of the installation and any possible short-term, unexpected overloading.



**WARNING!** Never exceed the rating of the hardware or equipment.



**WARNING!** Consult a licensed, professional engineer regarding physical equipment installation. Ensure that all local, state and national regulations regarding the safety and operation of loudspeakers and related equipment are understood and adhered to. This product is capable of producing sound pressure levels that can permanently damage human hearing. Always keep sound pressure levels in the listening area below levels that can damage human hearing.

## Warranty (USA only; other countries, see your dealer or distributor)

### QSC Audio Products 3 Year Limited Warranty

QSC Audio Products, LLC (“QSC”) guarantees its products to be free from defective material and/or workmanship and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use, provided the unit is returned to our factory, one of our authorized service stations or an authorized QSC International Distributor via pre-paid transportation with a copy of proof of purchase (i.e., sales receipt). This warranty provides that the examination of the return product must indicate, in our judgment, a manufacturing defect. This warranty does not extend to any product which has been subjected to misuse, neglect, accident, improper installation, or where the date code has been removed or defaced. QSC shall not be liable for incidental and/or consequential damages. This warranty gives you specific legal rights. This limited warranty is freely transferable during the term of the warranty period. The warranty on QSC products is NOT VALID if the products have been purchased from an unauthorized dealer/online e-tailer, or if the original factory serial number has been removed, defaced, or replaced in any way. Damage to, or loss of any software or data residing on the product is not covered. When providing repair or replacement service, QSC will use reasonable efforts to reinstall the product’s original software configuration and subsequent update releases, but will not provide any recovery or transfer of software or data contained on the serviced unit not originally included in the product.

Customers may have additional rights, which vary from state to state or from country to country. In the event that a provision of this limited warranty is void, prohibited or superseded by local laws, the remaining provisions shall remain in effect.

**The QSC limited warranty is valid for a period of three (3) years from date of purchase in the United States and many (but not all) other countries.**

For QSC warranty information in countries other than the United States, contact your authorized QSC international distributor. A list of QSC International distributors is available at [www.qscaudio.com](http://www.qscaudio.com).

To register your QSC product online, go to [www.qscaudio.com](http://www.qscaudio.com) and select “Product Registration”. Other questions regarding this warranty can be answered by calling, e-mailing or contacting your authorized QSC distributor.

**Phone:** 1-800-854-4079 within US and Canada, +1-714-754-6175 international, **Email:** [warranty@qscaudio.com](mailto:warranty@qscaudio.com), **Website:** [www.qscaudio.com](http://www.qscaudio.com).

## Introduction

The MH-1075C-F system provides the mid, and high-frequency components of a DCS 3-way loudspeaker system. It is designed specifically for large format cinemas and other applications where a point source surround channel or screen channel must be suspended or flown rather than mounted on a platform or floor.

The high frequency horn is a low-distortion waveguide providing highly articulate dialogue without the coloration associated with conventional horn loudspeakers. Both horns feature broad horizontal and vertical coverage to ensure audio integrity is delivered to every seat in the auditorium.

The horn and driver assemblies are mounted in a rugged, tour-grade plywood enclosure designed for safe suspension via M10 attachment points. Heavily braced, tour grade construction provides great strength while keeping weight to a minimum. The rear panel is removable for access to the drivers and MF/HF crossover if service should ever be necessary.

The MH-1075C-F includes a driver protection and mid-/high-frequency crossover network to assure reliable operation. DC blocking capacitors protect against DC or low-frequency signals that could damage an unprotected driver. A 12 dB per octave crossover seamlessly blends the mid and high frequency elements and allows operation in bi-amp mode. Outboard processing, such as the DCP or DCM, is required to provide the active crossover between the low- and mid-/high-frequency drivers and two separate amplifier channels are required for the normal bi-amp operation of the SC-423C-F System.

The MH-1075C-F is pre-assembled to reduce field assembly time. Sixteen M10 attachment points provide safe and secure means to suspend the enclosure via M10 forged eyebolts (not included) or user-supplied brackets.

## Suspension

The MH-1075C-F comes with 16 M10 attachment points and bolts installed on the enclosure. Only remove the required bolts for mounting and leave all other bolts installed to insure that the enclosure retains full strength. We recommend the use of serviceable thread locking compound when installing the bolts to prevent loosening due to vibration. Use only load rated hardware.

The LF-4215-F, LF-4215-8F, MHV-1090-F and MH-1075C-F have the exact same external dimensions and attachment points. They can be supported individually or as a group, depending on what works best for the application. The boxes can be arrayed vertically and horizontally. When paired together, it is recommended that the mounting structure connects both boxes to the suspension system rather than suspending the boxes from one another. Commercially available uni-strut or other custom fabricated brackets can be used.

Suspending the system from the top rear attachment points results in a slight down angle that may be close to the desired aiming for many installations. The bottom attachment points can be used for a pull-back cable to fine tune the tilt of the system.

Before placing, installing, rigging, or suspending any speaker product inspect all hardware, suspension, cabinets, transducers, brackets and associated equipment for damage. Any missing, corroded, deformed, or non-load rated component could significantly reduce the strength of the installation or placement. Any such condition severely reduces the safety of the installation and should be immediately corrected. Use only hardware which is rated for the loading conditions of the installation and any possible short-term, unexpected overloading.

Never exceed the rating of the hardware or equipment.

Consult a licensed, professional engineer regarding physical equipment installation. Ensure that all local, state and national regulations regarding the safety and operation of loudspeakers and related equipment are understood and adhered to.



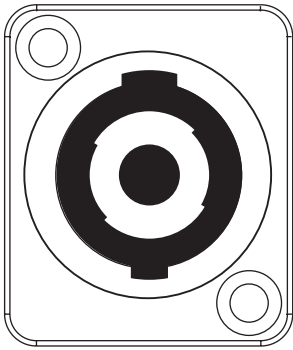
**WARNING!** Ensure all attachment points are installed and correctly tightened in order to maintain enclosure's rated strength. Additionally, air leaks resulting from missing hardware will degrade the loudspeaker's performance. Use only QSC's M10 forged shoulder eye bolts. Contact QSC Technical Services department for complete information.

## Aiming

The aiming axis of the HF and MF horns is tilted down 10 degrees relative to the cabinet and this should be taken into account when adjusting the coverage in the room. In general, the aiming axis of the horns should be directed at the prime seating area 2/3 of the way back or across the auditorium. Slight adjustments may be needed to achieve the best possible compromise when covering the near and far seating area.

## Connections

Amplifier connections to the MH-1075C-F are made on the rear panel via a Neutrik® NL4 Speakon™ connector supplied by the installer. This 4-conductor connector provides power to both the MF and HF sections of the MH-1075C-F. The standard configuration, as shipped from the QSC factory, uses an internal passive crossover to permit bi-amp operation of the MH-1075C-F and the associated LF enclosure. In this mode, the MF/HF crossover is connected to the 1+ and 1- terminals and the 2+ and 2- connections are not used. It is possible to use tri-amp mode by removing the rear panel of the MH-1075C-F and setting the crossover switch to the tri-amp position. The MF connections use the 1+ and 1- terminals and the HF connections use the 2+ and 2- terminals. Pre-made speakON cables using high grade, 4 conductor stranded wire are readily available from a number of suppliers and is highly recommended.



– Figure 1 –

### Bi-amp mode, Factory Configuration

Input	MF/HF		No Connection	
	1+	1-	2+	2-
Pinout	Pos	Neg	N/A	N/A

### Optional Tri-amp mode, Reset Internal Mode Switch

Input	MF		HF	
	1+	1-	2+	2-
Pinout	Pos	Neg	Pos	Neg



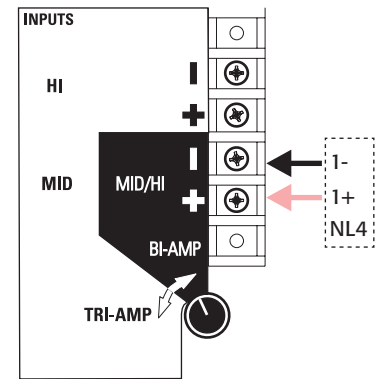
**NOTE:** Maintain proper loudspeaker connection polarity throughout the entire system for maximum performance. Do not apply full range signal to the MH-1075C-F. All required signal processing must be done before the signal is applied to the loudspeaker.

## Bi-amp / Tri-amp Operating Mode Selection

By default, the operating mode selector switch is set to bi-amp. You can leave it in the bi-amp mode, or switch to the tri-amp, depending on your application setup.

### Default Configuration

Bi-amp – When set to bi-amp (Figure 2), the MH-1075C-F accepts mid-high frequency signals on one set of inputs and uses an internal crossover network between the mid- and high-frequency drivers. The signal applied to the mid-high loudspeaker assembly must not contain low-frequency content (below 200 Hz). This mode uses 1+ and 1- of the NL4 speakON connector.



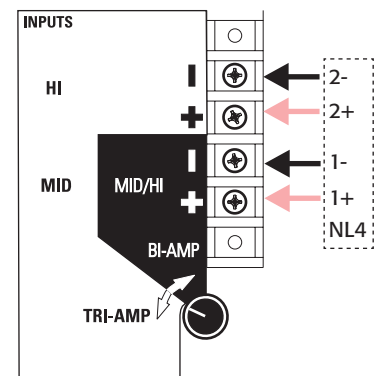
– Figure 2 –

### Optional Configuration



**IMPORTANT:** This configuration requires removal of the rear panel to access the crossover mode switch.

Tri-amp – When set to tri-amp (Figure 3), the MH-1075C-F accepts separate mid- and high-frequency signals on two sets of inputs. The internal crossover network is bypassed and only the protective circuitry for the HF driver remains. Each of the driver's signals must have the appropriate signal processing before operating. In this mode, the MF connects to 1+ and 1-, the HF connects to 2+ and 2- of the NL4 speakON connector.

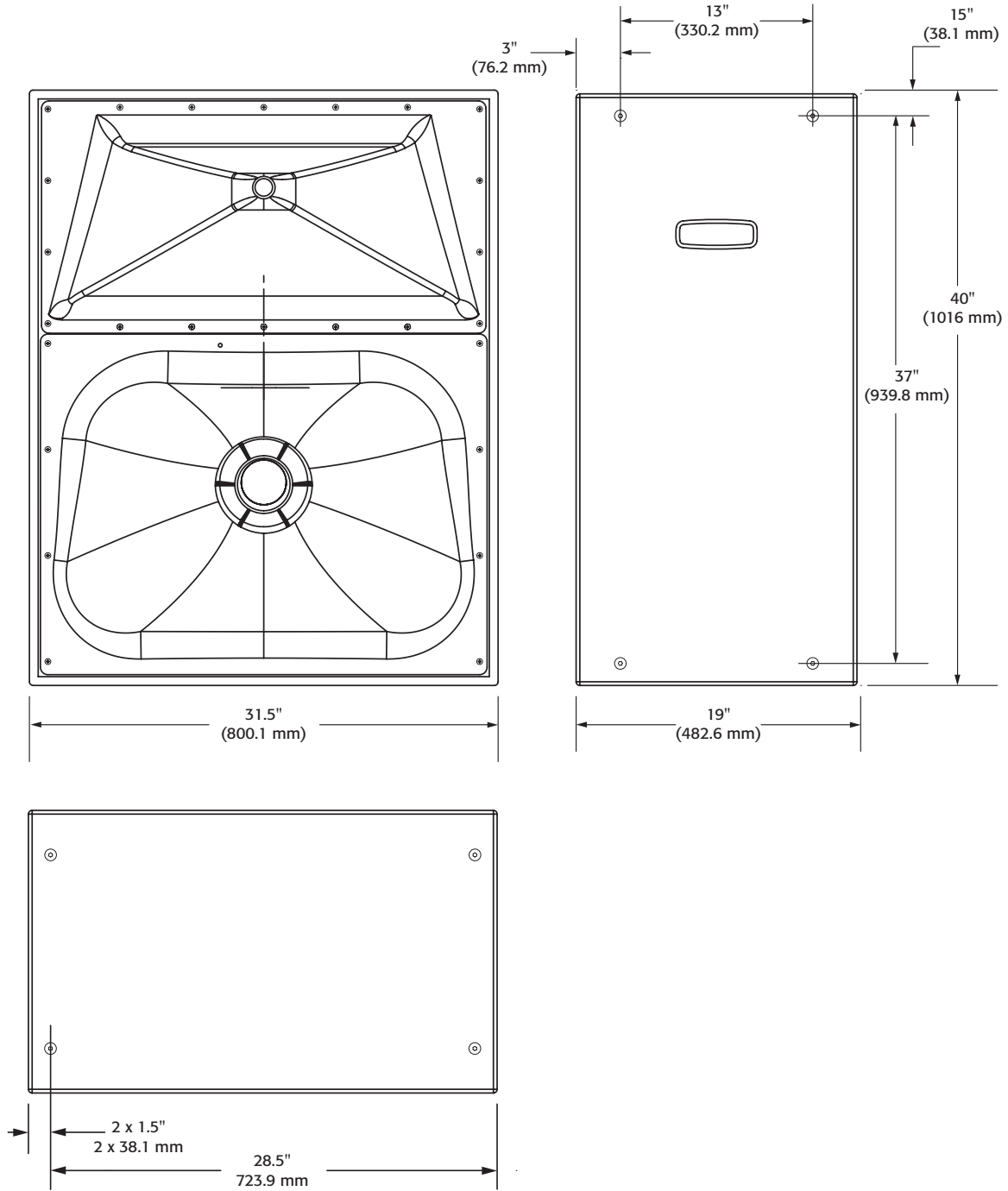


– Figure 3 –



**NOTE:** Do not connect amplifiers directly to the driver inputs! Always use the input NL4 speakON connector.

### Dimensions



– Figure 4 –

## Specifications

	MH-1075C-F
Frequency Range	250 Hz – 16 kHz
Maximum Output (full space / watt / 1 meter)	
Passive Bi-amp Mode	Mid-/High-frequency 135.5 dB SPL
Active Tri-amp Mode	Mid-frequency 135.5 dB SPL High-frequency 133 dB SPL
Impedance	8 $\Omega$ nominal, mid-frequency and high-frequency
Maximum Input Power (AES method, 2 hrs)	Passive Mid-/High-frequency 250 W Active Mid-frequency 275 watts Active High-frequency 80 watts
Sensitivity (watt / 1 meter)	Mid-frequency 105 SPL High-frequency 108 dB SPL
Crossover Frequencies	Low- to mid-frequency 250 Hz or higher, Mid- to high-frequency 1.7 kHz, at least 24 dB/octave
Crossover Network	Mid- to high-frequency crossover at 1.7 kHz, 18 dB per octave, DC blocking capacitors for driver protection
Transducers	Mid-frequency: 10" high-efficiency mid-range, phase-ring loaded High-frequency: 1.5" (38 mm) exit, 3.0" (75 mm) titanium diaphragm compression driver.
Nominal Coverage	90° horizontal x +20° to -30° vertical (50° total)
Di	9 dB (400 – 16 kHz average)
Q	8 (400 – 16 kHz average)
Connectors	Neutrik® speakON™ NL4. Passive MF/HF 1+, 1-; Active MF 1+, 1- and HF 2+, 2-
Enclosure	Heavily braced 15 mm tour-grade plywood with 16 M10 load-rated attachment points
Dimensions (HWD)	40" x 31.5" x 19" (1016 mm x 800.1 mm x 482.6 mm)
Weight – Net / Shipping	127 lb (57.6 kg) / 131 lb (59.4 kg)



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